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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/615,124 | 07/08/2003 | Horst Knoedgen | DS02-017 | 9099 |
| <div>7590 04/19/2005</div> <div>GEORGE O. SAILE 28 DAVIS AVENUE POUGHKEPSIE, NY 12603</div> <div>EXAMINER HOANG, QUOC DINH</div> <div>ART UNIT PAPER NUMBER</div> <div>2818</div> | | | | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,124

Applicant(s)

KNOEDGEN, HORST

Examiner

Quoc D. Hoang

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-03-2-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II (claims 22-29) in the reply filed on 02/9/2005 is acknowledged. The traversal is on the ground(s) that fabricating a two-level DRAM. This is not found persuasive because for example in claim 1, the channel of pass transistor's channel may not need a mask.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 and 26 recites the limitation "the following ion implant" in claim 7 line 7 and claim 26 line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rolandi (US Pat No. 5,923,975) in view of Brehmer et al (U.S. Pat No. 5,805,021) (hereafter "Brehmer").

Regarding claims 22 and 26, Rolandi teaches a natural transistor comprising:
masking the channel of the natural transistor to avoid any impurities caused by a

following ion implant step (col. 4, line 57 through col. 6, line 15 and Fig. 6); performing ion implant in the channel zone of the transistors of the outer circuitry (standard transistor) (col. 4, lines 65-67); and removing mask from natural transistor and continue standard process (col. 4, line 57 through col. 6, line 15 and Fig. 6)

Rolandi does not teaches providing a capacitor, a current source and an amplifier

However, Brehmer teaches DRAM cell comprising a capacitor, natural transistor, a current source and an amplifier (see col. 2, line 44 through col. 4 and Fig. 3) At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the capacitor teaching of Brehmer with Rolandi's natural transistor, because it would have simplified circuits having large voltage swing and lower power consumption as taught by Brehmer, column 2, lines 15-25. Furthermore, the apparatus limitations do not have weight in process claim unless they affect the process in a manipulative sense. *In re Tarzy-Hornock*, 158 USPQ 141. Or *Ex parte Pfeiffer* 135 USPQ 31.

Regarding claims 23-25 and 27-29, Rolandi teaches the natural transistor is PMOS, NMOS or CMOS (col. 4, lines 1-35 and Fig. 9).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (571) 272-1780. The examiner can normally be reached on Monday-Friday from 8.00 AM to 5.00 PM.

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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers of the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Quoc Hoang
Patent examiner/AU 2818


David Nelms
Supervisory Patent Examiner
Technology Center 2800